

In the Claims

Amendments to the Claims:

1. (canceled)
2. (currently amended) The method of claim [1] 5, wherein the planarized cladding portion has a thickness of between about 0 and 200 nm above the upper surface of the waveguide core portion.
3. (currently amended) The method of claim [1] 5, wherein the cladding portion has a first index of refraction; the waveguide core portion has a second index of refraction; and the waveguide core portion second index of refraction is greater than the cladding portion first index of refraction.
4. (currently amended) The method of claim [1] 5, wherein the planarization is a chemical mechanical polishing process.
5. (currently amended) ~~The method of claim 1[,]~~ A method of forming a substantially planar surface of an optical waveguide device, comprising the steps:
forming at least one waveguide core portion within at least one cladding portion; the waveguide core portion having an upper surface; the cladding

portion having a higher portion over at least the waveguide core portion and a lower portion;

forming a patterned sacrificial portion over the lower cladding portion and a portion of the higher cladding portion, leaving a second portion of the higher cladding portion exposed to form an exposed portion of the higher cladding portion;

removing at least a portion of the exposed second portion of the higher cladding portion by a selective removal process selective to the patterned sacrificial portion leaving a remnant of the exposed second portion of the higher cladding portion; and

planarizing:

a) the remnant of the exposed second portion of the higher cladding portion over the waveguide core portion; and

b) the lower cladding portion

to form a planarized cladding portion coplanar with the upper surface of the waveguide core portion, wherein the waveguide core portion comprises at least one waveguide core embedding within at least another waveguide core.

6. (currently amended) The method of claim [1] 5, wherein the patterned sacrificial portion is comprised of:

photoresist: or

photoresist stacked upon a film comprised of: silicon nitride, silicon oxynitride organic silicate glass, diamond like carbon, silicon dioxide, polyimide, PMMA, tantalum, tungsten or molybdenum.

7. (currently amended) The method of claim [1] 5, wherein the cladding portion is comprised of silicon nitride, organic silicate glass, silicon dioxide, polyimide or PMMA.
8. (currently amended) The method of claim [1] 5, wherein the selective removal process selective to the patterned sacrificial portion is a dry and/or wet etching process.
9. (currently amended) The method of claim [1] 5, wherein the patterned sacrificial portion is removed before the planarization.
10. (currently amended) The method of claim [1] 5, wherein the sacrificial portion is photoresist and the patterned sacrificial photoresist portion is removed before the planarization by a stripping process.
11. (currently amended) The method of claim [1] 5, wherein the waveguide core portion is formed using a first mask; and the patterned sacrificial portion is patterned from a sacrificial layer using a second mask that is the reverse of the first mask.
12. (currently amended) The method of claim [1] 5, wherein the planarization also removes any remaining patterned sacrificial portion.

13. (currently amended) The method of claim [1] 5, wherein waveguide core portion is formed using a first mask; and not all the sacrificial portion area is needed to be patterned using a second mask that is the reverse of the first mask.

14. (currently amended) The method of claim [1] 5, wherein the patterned sacrificial portion is also removed during the planarization.

15. (currently amended) The method of claim [1] 5, wherein the planarization includes a fine planarization process.

16. (currently amended) The method of claim [1] 5, wherein the planarization of the remnant of the exposed second portion of the higher cladding portion over the waveguide core portion and the lower cladding portion does not expose the upper surface of the waveguide core portion.

Claims 17 to 57 (canceled)

Claims 58 to 74 (canceled)